



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,784	03/21/2006	Jochen Wehner	WEHNER1PCT	9555
25889	7590	09/29/2008		
COLLARD & ROE, P.C. 1077 NORTHERN BOULEVARD ROSLYN, NY 11576			EXAMINER LEONARD, MICHAEL L	
			ART UNIT	PAPER NUMBER
			4131	
			MAIL DATE	DELIVERY MODE
			09/29/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/572,784	Applicant(s) WEHNER, JOCHEN	
	Examiner MICHAEL LEONARD	Art Unit 4131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/31/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :7/23/2007; 4/16/2007; 3/16/2007; 3/21/3006.

DETAILED ACTION

Claim Objections

1. Claims 2, 3, 5, 8, 11, 13, 14, and 17 are objected to because of the following informalities: Claims 2, 3, 5, 8, 11, 13, 14, and 17 are objected to for the use of “preferable” range or limitations. The claims are indefinite because one of ordinary skill in the art recognizes that the “preferable” ranges or limitations are optional or exemplary, and not express recitations of the claims. However, such “preferable” ranges or limitations have not traditionally been used in U.S. patent claims. Therefore, the examiner requests that the “preferable” ranges/limitations be deleted from the claims, and inserted into new dependent claims.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1-18 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claims 1-18 provides for the use of a two-component composition, but, since the claims do not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 6, 7, 9-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,895,689 to *Gajewski* in view of U.S. Patent No. 4,267,299 to *Oechsle, III*.

As to claim 1, 6, 7, 14, and 18 *Gajewski* discloses a two-component polyurethane system used as a coating (Column 2, lines 10-11) with an isocyanate-terminated polyurethane prepolymer (Column 2, lines 12-13) wherein the isocyanate can be aromatic (Column 2, line 32) and a curative agent consisting of polyether polyols with an average molecular weight of less than 250 g/mol for the lower molecular weight polyols (Column 3, line 18) and a range from 250 to 10,000 g/mol of higher molecular weight

polyols (Column 2, lines 53-55) and aromatic amines (Column 2, line 15-18). Gajewski further discloses polyols with a functionality of 2 (Column 2, lines 20-22) wherein a calculation of a 200 molecular weight polyol would give an hydroxyl group concentration of 8.6 g/mol of hydroxyl groups per kg of low molecular weight polyol.

Gajewski further teaches that polyurethane coatings are abrasive resistant, tear resistant, possess good load bearing characteristics, have high hardness and have good solvent resistance (Column 1, lines 16-20).

Gajewski does not expressly disclose a polyurethane coating used for synthetic epoxy or vinyl systems.

Oechsle discloses a two-component polyurethane system useful as a coating (Column 2, line 41). Oechsle further discloses a reinforced epoxy surface which may be coated with the materials (Column 10, line 5).

Gajewski and Oechsle are analogous art because they are from the same field of endeavor with respect to a two-component polyurethane system composed of aromatic polyisocyanates and a curative system made up of polyols and aromatic amines that can be used as a coating.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the disclosed two-component polyurethane system from Gajewski to coat reinforced epoxy resin systems as suggested by Oechsle because Oechsle suggests applying PU coatings to reinforced epoxy resins, and such coatings possess abrasion resistance, tear resistance, good load bearing characteristics, high hardness and good solvent resistance

Art Unit: 4131

As to claim 2, Gajewski further discloses the polyurethane coating displaying an elongation at break of greater than 5% (Column 6, Table 2).

As to claims 9-11, Gajewski discloses aromatic diamines useful in the curative agent are made up of methylenebisaniiline substiuents. Gajewski further discloses the aromatic amine to be 4,4' - methylenebis-(3-chloro-2,6-diethylaniline) which is known to a person of ordinary skill in the art as MCDEA (Column 3, lines 56-65). Gajewski further discloses that the aromatic amine is present in the curative agent in an amount ranging from 10 weight percent to 90 weight percent (Column 4, lines 5-8). The reference differs from claim 11 by failing to disclose an example falling within the claimed range, and by failing to disclose a range with sufficient specificity to anticipate the claimed range. However, the reference teaches a range that overlaps the claimed range, and it has been held that overlapping ranges are sufficient to establish *prima facie* obviousness. See MPEP 2144.05.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected from the overlapping portion of the range taught by the reference because overlapping ranges have been held to establish *prima facie* obviousness.

As to claims 12 ,13, and 15, Gajewski discloses that the amount of low molecular weight polyol when in combination with a higher molecular weight polyol should be no more than 20% of the total weight of polyol contributing to the curative system (Column 3, lines 21-25). Gajewski further discloses a low molecular weight polyol chosen from a

group comprising polyester polyols, polyether polyols, or aliphatic glycols (Column 3, lines 16-18).

As to claims 16 and 17, Gajewski discloses high molecular weight polyols comprising polyester, polyether, and dimerized unsaturated fatty acids (Column 3, lines 6-10). Gajewski further discloses the high molecular weight polyol used in the curative system can be used in the amount from about 10 weight percent to 90 weight percent of the total weight of the curative agent. A preferred amount of polyol will range from 30 to about 60 weight percent of the total weight of the curative agent (Column 3, lines 51-55).

6. Claims 3-5 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,895,689 to *Gajewski* in view of U.S. Patent No. 4,267,299 to *Oechsle, III* as applied to claim 1 above, and further in view of U.S. Patent No. 3,607,600 to *Schreter et. al.*

As to claim 3-5 and 19-21, Gajewski and Oechsle do not expressly disclose an uncured polyurethane coat coming in contact with a synthetic resin reinforced with the prescribed materials mentioned in claims 5 and 21.

Schreter discloses a system comprising a liquid elastomer (polyurethane) and a synthetic resin bonded with reinforced fibers (Column 6, lines 15-25) wherein the elastomer coating is allowed to sit uncured and until the surface is tack-free before the addition of the reinforced resin (Column 2, lines 58-63). Schreter further discloses a

Art Unit: 4131

variety of synthetic resin backing layers including glass, cotton, hemp, polyamides, rayon, and a variety of metallic wire (Column 3, lines 23-27).

Gajewski, Oechsle, and Schreter are analogous art because they are from the same field of endeavor with respect polyurethane systems used as coating for reinforced resin systems to greatly increase the tear strength and tensile strength of the finished urethane surface (Schreter Column 4, lines 64-66).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to coat a reinforced resin system with a two-component polyurethane system wherein the reinforced material is chosen from a variety of options. The suggestion/motivation would have been in order to provide an optimal adhesion system between the polyurethane and resin to promote improved physical properties of the urethane (Schreter Column 4, lines 64-66).

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,895,689 to *Gajewski* in view of U.S. Patent No. 4,267,299 to *Oechsle, III* as applied to claim 1 above, and further in view of U.S. Patent No. 4,581,433 to *Potter et. al.*

Gajewski and Oechsle do not expressly disclose method for the determination of the gel time.

Potter discloses a two-component polyurethane system wherein an HDI isocyanate (Column 4, line 20) is first dissolved in a solvent (Column 6, lines 38-39) wherein the solvent can be chosen from toluene, xylene, butyl acetate, or ethylene glycol in the amount of up to 15% by weight of the total weight of coating compounds

and then is mixed with aromatic amines at 25°C (Column 5, Table 2) to give gel times ranging from 6 to 36 minutes (Column 5, Table 2).

Gajewski and Potter are analogous are because they are from the same field of endeavor with respect to a two-component polyurethane system composed of aromatic polyisocyanates and a curative system made up of polyols and aromatic amines that can be used as a coating.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the disclosed two-component polyurethane system from Gajewski to determine the gel time of the polyurethane coating to further determine the amount of time required before addition of the resin system to the polyurethane coating.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL LEONARD whose telephone number is (571)270-7450. The examiner can normally be reached on Monday to Friday, 8:00am EST to 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 5712721376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4131

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner
Art Unit 4131

/MICHAEL LEONARD/
Examiner, Art Unit 4131